

NMOS, ST 2022-7 and Channel Count Enhancements to AES67 in Comrex NX Rack and Multirack

This Technote describes several newer features of Comrex codecs that support AES67. Because these features aren't heavily used, they are hidden behind the "Advanced Options" in the AES67 Menu.

NMOS

This is a protocol that allows a server to configure your AES67 streams remotely. The codec will be set up as an NMOS client, and the destination of the NMOS server will be programmed into the AES67 settings.

Note: When using NMOS, the AES67 "Input" and "Output" settings in the Web interface should be ignored. They will not reflect settings changed by the NMOS server, and changing the codec settings will override previous NMOS settings.

In the AES67 web configuration settings, make sure the toggle on the bottom of the page is set to "Advanced". Then open the main AES67 menu and locate the NMOS section.

NMOS	
Enable	Disabled
Port	1936
Flush streamer address on disable	No
Registration Server Mode	mDNS

Enable- Enable NOMS here only after other changes are complete.

Port- Local port for the NMOS server to connect to the codec on.

Flush streamer address on disable- provided for compatibility with Nevion NMOS register server.

Registration Server Mode- There are four options here depending on how your NMOS server is set up:

- mDNS**- [Default option] The codec will search for the server via the mDNS protocol.
- Static Address**- The UI will prompt you for the IP address of the NMOS server.
- Search Domain**- A search domain for looking up a DNS entry needs to be supplied.
- Registry-less**- this mode must be used if the user plans to use NMOS without an NMOS registry in the network.

Once the NMOS server settings are complete, enable NMOS via the top option.

ST 2022-7

This is a protocol to add redundancy to the main AES67 stream via a second network connection. On Comrex codecs, it is recommended to have a separate Ethernet port for the main streams to the Internet (two if using CrossLock bonding modes) and one separate port each for AES67 and ST 2022-7. This will require use of External USB to Ethernet adapters. Check the Comrex support page for recommended adapters. Not all are equal or supported by the codec.

After setting up and naming your Ethernet ports in the Network Manager section, return to the AES67 config section and set for advanced mode on the bottom of the page.

Look for the ST 2022-7 setting under the AES67 options and select it to open the pull-down menu.

The screenshot shows the 'AES67 System' configuration page. Under the 'ST 2022-7 Network Interface' setting, a dropdown menu is open, displaying the following options: (None), (None), USB Ethernet Port #1, Primary Ethernet Port, and Secondary Ethernet Port. The 'Current' and 'Default' values are both set to '(None)'. The 'Secondary Ethernet Port' option is highlighted in blue.

This will list all available network interfaces and allow you to choose which one to designate as the ST 2022-7 redundant network.

CHANNEL COUNT

The default operation of the AES67 driver is to send and receive a two-channel (stereo) stream. This option allows you to change this default to one-channel for mono AES67 systems, or up to eight for compatibility with other devices. If the channel count is set to more than two, only the first two channels will be streaming audio. Any upper channels will be ignored by the AES67 receiver, and populated with silence for the AES67 transmitter. Mono AES67 streams will contain the codec mono encoder/decoder stream, or left channel only if a stereo encoder/decoder is set in the profile.

To change the channel count, navigate to the AES67 config section and set for advanced mode on the bottom of the page.

The screenshot shows the 'Input' and 'Output' configuration sections. The 'Input' section is expanded, showing 'Channel count' set to 2. The 'Output' section is also expanded, showing 'Channel count' set to 2. Other settings include 'Delay' (5ms), 'Source' (SRC 2@Node-01), 'Ignore Clock GMID' (Enabled), 'Name' (ACCESS NX Rack), 'Address' (239.1.87.60), and 'Payload Type' (98).

An option for "Channel count" will appear for both input and output settings. If using Multitrack, set this for each instance you need to change.